

REMARKS

Claims 2 and 3 stand rejected under 35 USC 112, second paragraph, as being indefinite because, in the words of the Examiner, “the defined voltage dropping across the capacitor (a ripple voltage) is contradictory to that defined in claim 1.” The Examiner reads claims 2 and 3 as defining ripple voltages that fall below a minimum ripple voltage allegedly set forth in claim 1 and thus contradicting claim 1. This rejection is respectfully traversed.

Applicants respectfully submit that the Examiner has misread claim 1 in making this rejection. Claim 1 states in part, “wherein the capacitor is dimensioned such that the voltage across the capacitor *falls below* 15% of the nominal peak rectified voltage of the source during each cycle of the alternating source.” [Emphasis added.] In other words, claim 1 does not, contrary to the Examiner’s interpretation, state that the minimum ripple voltage is 15%; it instead states that the maximum ripple voltage is 15%. As a result, claims 2 and 3 are completely consistent with claim 1 and are not indefinite. This rejection should be withdrawn.

Claims 1-5, 7-16 and 18-22 stand rejected under 35 USC 103(a) on Kuriyama, taken by itself. Although claims 10-16 and 19-22 are pending in this application, the Examiner has refused to examine them, stating in a “Special Note” on page 6 of the Action that he considers these claims to be “restrictable.” Applicants respectfully traverse the rejection on Kuriyama and protest against the Examiner’s failure to follow appropriate Office procedure in refusing to examine claims 10-16 without giving applicants a chance to respond to a restriction requirement.

The undersigned, as the Examiner can note from his registration number, has been a registered patent attorney for some time. In the thousands of applications that the undersigned has handled for clients, he has never once seen a situation where an Examiner has refused to act on claims on the ground that they are “restrictable,” where the Examiner has issued no restriction requirement and has not given the applicants a chance to respond to such a restriction requirement. As a matter of rule and right, applicants are entitled to respond to any adverse action on claims, including actions that refuse to address claims, yet the Examiner has refused to

give applicants in this application their basic right to confront the Examiner's reasoning holding claims 10-16 and 19-22 to be "restrictable." Applicants further note that the Examiner has, indeed, rejected these claims on their merits and has not withdrawn them from consideration, as can be seen from the paragraph bridging pages 5 and 6 of the Action, in which the Examiner provides reasoning (without citing any prior art in support thereof) why these allegedly restrictable claims are directed to "merely an obvious intend[ed] use." Accordingly, since, as applicants will show, claims 1-5, 7-16 and 18-22 are patentable over Kuriyama, the remaining claims in this application should be allowed as well.

On pages 3 and 4 of the Action, the Examiner helpfully provides a chart showing how claim 1 reads on Kuriyama. The Examiner appropriately acknowledges that Kuriyama does not teach the requirement of the claims, "wherein the capacitor is configured such that the voltage across the capacitor falls below 15% of the nominal peak rectified voltage of the source during each cycle of the alternating source." The Examiner, however, states that "Kuriyama clearly teaches the fluctuation of the capacitor voltage," without showing where in Kuriyama such a teaching appears. To be sure, Kuriyama discloses capacitor 15 connected between an output side of the first converter 5 and an input side of the second converter 15a, but Kuriyama says nothing whatever about any fluctuation of the capacitor voltage or any configuration of a capacitor as a function of such a capacitor voltage. Applicants respectfully request the Examiner to explain where Kuriyama discloses fluctuation of any capacitor voltage. If the Examiner cannot do that, then applicants call upon the Examiner either to cite prior art or to provide a declaration of personal knowledge pursuant to 37 CFR 1.104(d)(2). The Examiner seems to have assumed that such a fluctuation would exist, without showing that it in fact does exist.

Another deficiency of the Examiner's reasoning is that even he, in the portion of the table at the top of page 4 of the Action, recognizes that Kuriyama does not teach the claimed maximum 15% ripple voltage, saying, "the 15% ripple voltage *possibly* is met by [the] Kuriyama Fig. 1 or Fig. 2 circuit because of the following reasons." [Emphasis supplied.] The fact that a

15% ripple voltage is “possible,” which the Examiner has deduced from his hindsight knowledge of the claimed invention and applicants’ disclosure, does not mean that persons of ordinary skill in the art would have found it obvious to arrive at such a maximum ripple voltage as claimed. To be sure, with respect to claims 2 and 3, they are not “broader” than claim 1, as contended at the bottom of page 4 of the Action, since, as shown above, they are in fact narrower. Claim 1 would not have been obvious, then claims 2 and 3 could not have been obvious either.

There are yet more basic reasons than these why Kuriyama does not teach or suggest the claimed invention, since Kuriyama fails to recognize the basic background of this invention and the problems that it was intended to solve, about which Kuriyama is completely silent. *Cf., In re Nomiya*, 184 USPQ 607 (CCPA 1975) (holding that if the existence of the problem the invention solves was not known to persons of ordinary skill in the art, then the solution to that problem could not have been obvious even if the invention is an “obvious” solution once the existence of the problem solved by the invention was known). This is not a situation in which the prior art provides a motivation to make the claimed invention that is different from the motivation the inventors have relied upon; it is instead a situation where the deficiencies of the prior art are such, given the context of the invention, that persons of ordinary skill in the art would not have been motivated by the cited prior art to arrive at the invention now claimed.

Generally speaking, the use of a capacitor such as that claimed in claim 1 of this application was thought to have been counterproductive, due to the consequent variations in output power to which the Examiner has referred and the generation of harmonic content prohibited by EMC regulations. As the Examiner points out on page 4 of the Action, the smaller the value of capacitor 15 the higher the ripple voltage. With high ripple voltages come increased generation of harmonic content and thus violation of regulations relating to the emission of electromagnetic radiation by components. In the past, attempts to counteract these effects have resulted in increasingly complex circuit arrangements, designed to improve the quality of the input current and to minimize the harmonic content of that input current.

As a result, the use of a DC link capacitor in the invention having a small value, which causes the voltage to drop considerably during each cycle, would have been regarded as being detrimental because the harmonic content of the current is at the switching frequency of the load. However, in this invention, contrary to the prior art, the load is switched at a high frequency, causing the harmonic content to fall outside the frequency bands prohibited by the EMC regulations. This particular requirement is set forth in the portion of the claim quoted above which requires the capacitor to be configured since the voltage across the capacitor falls below 15% of the nominal peak recited voltage of the source during each cycle of the alternating source.

Another reason apparent from the prior art not to do what the invention of this application does is that employing the claimed capacitor would have been thought to produce a variation in output power that is not ordinarily acceptable. This knowledge further militates against the Examiner's finding of obviousness in this case.

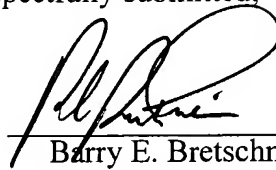
In accordance with the foregoing, early action allowing *all* of the pending claims and withdrawing the Examiner's attempt to impose a restriction requirement without giving applicants a chance to respond, is solicited. If the Examiner considers that a telephone conference would expedite prosecution in this matter, he is respectfully requested to telephone the undersigned attorney.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing 424662011500.

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